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ABSTRACT

A study was undertaken to determine what factors distinguish low potency pictures (those that elicit a relatively low amount of language) from high potency pictures. Pictures were selected from eight first and second grade readers and classified according to the Picture Potency Formula. The results indicated that three factors were found to be consistently present in pictures to which children responded highly, but were not present in pictures to which children responded to a lesser extent. These factors were the number of actions, the number of children, and the number of people in the pictures. (TJ)

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The Effective Components of Children's Pictures

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The extent to which pictures influence reading has been investigated by various researchers. Researchers have studied the effect of pictures on such things as word recognition (King & Muehl, 1965; Denburg, 1976-1977), comprehension (Matz & Rohwer, 1971; Weintraub, 1960; Samuels, 1970), and imagery (Paivio & Yarmey, 1966; Rohwer, 1970). Children's language abilities have also been assessed through their responses to pictures. However, since different kinds of pictures elicit varying responses from children, a Picture Potency Formula was formulated (Manzo & Legenza, 1975) and validated (Legenza, in press) to assess the language stimulation value of pictures. The formula takes the following ten factors into consideration in order to assign a potency level (high, eliciting a relatively large amount of language; medium, a moderate amount; and low, a small amount of language) to any given

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picture: size of picture, empathy of the picture for children, and number of different things, significant things, total things, colors, actions, children, people, and things with potential for movement. Each of the ten factors is counted and the number converted to a scaled score of 0 - 5. The scaled scores are tallied to arrive at a potency level for each picture. Specific instructions for calculating the potency level of a picture are given in the Manzo and Legenza (1975) article.

Previous research using the Picture Potency Formula (Legenza & Knafle, 1978) has shown that most of the pictures in basals are of low potency, that is, they elicit a relatively low amount of language.

The purpose of this study was to determine specifically which factors were most salient in separating the low from the high potency pictures.

Method

Pictures from eight first and second grade basal readers (Ginn, 1976; Harcourt, Brace & Jovanovich, 1974; Holt, Rinehart & Winston, 1973; Houghton-Mifflin, 1976; Lippincott, 1975; Lyons & Carnahan, 1974; Scott Foresman, 1976, Open Highways, 1974) were used in this study. An average of six pictures from each level of each series was randomly selected and classified according to the Picture Potency Formula.

Results and Discussion

The results indicate that three factors were found to be consistently present in pictures to which children responded highly, but not present in pictures to which children responded to a lesser

extent. The factors which differentiated to the greatest extent were number of actions, number of children, and number of people in the pictures.

Table 1 contains the percentages of factors found within each scaled score for low potency pictures and high potency pictures.

Insert Table 1 about here

An analysis of the table indicates that, in general, the percentages for high potency pictures fall within the higher scaled score ranges, while those for low potency pictures are either more equally distributed across scaled scores or occur within the lower ranges of scaled scores. For all of the scaled scores there were differences between the low and high potency pictures. For example, for factor 1 (different things), 79% of the low pictures had scaled scores of 1-2, while 72% of the high pictures had scaled scores of 3-4; similarly, for factor 10 (empathy), 93% of the low potency pictures had scaled scores of 1-4, while 100% of the high pictures had scaled scores of 3-5. Additionally, there were very large differences between the scaled scores of the low and high potency pictures on factors 5 (actions), 6 (children), and 7 (people). For factor, 5 (actions), 96% of the low potency pictures had scaled scores of 1-2, while 100% of the high pictures had scaled scores of 4-5; for factor 6 (children), 93% of the low pictures had scaled scores of 0-3, with 62% having a score of 0, while 86% of the high pictures had a scaled score of 5; for factor 7 (people), 82% of the low pictures had scaled scores of 0-3, with 42% having a score of 0, while 100% of the high pictures had a scaled score of 5.

Thus, it seems that pictures which elicit children's language do have certain elements in common, namely, more actions, children, and people than do pictures which elicit lesser amounts of language from children. These factors should be kept in mind when choosing pictures to use for research and instructional purposes.

Table 1. Percentages of factors found within each scaled score

Picture Potency Factors	Scaled Scores					
	Low Potency Pictures					
	0	1	2	3	4	5
1 different things	4	46	33	14	3	
2 significant things	1	11	38	35	15	
3 total things	1	7	19	28	17	27
4 colors			25	52	20	3
5 actions	4	72	24	2		
6 children	62			31	4	3
7 people	42		21	19	9	9
8 potential movement	33	27	20	12	2	5
9 size of plate	3	56	35	6		
10 empathy	1	18	45	26	10	1
	High Potency Pictures					
1 different things			14	43	29	14
2 significant things				57	43	
3 total things						100
4 colors					43	57
5 actions					57	43
6 children					14	86
7 people						100
8 potential movement		29	14	14		43
9 size of plate			14	14	71	
10 empathy				14	57	29

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ABSTRACT

Pictures from eight first and second grade basal readers were selected and classified according to the Picture Potency Formula. The Picture Potency Formula is like a readability formula for pictures; it rates the extent to which each picture is likely to stimulate language. The purpose of the study was to determine what factors are present in pictures which elicit a relatively large amount of language. Three factors were found to be consistently present in pictures to which children responded highly, but not present in pictures to which children responded to a lesser extent. The factors which differentiated to the greatest extent were number of actions, children and people in the pictures.